



Expedited Permitting for PV Systems

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Solar ABCs Project
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Objectives

- ◆ Develop procedures and recommendations for timely and efficient permitting of PV systems by building inspectors and other jurisdiction officials.
- ◆ Minimize costs of permitting for PV systems.



Draft Report: Contents

- ◆ Introduction
- ◆ Currently Available Methods
- ◆ Recommended Approach
- ◆ Other Recommendations
- ◆ Summary
- ◆ Bibliography

Reference to IEEE PVSC Paper on Local Codes Issues



Currently Available Methods

- ◆ ***FSEC's PV System Design Review and Approval process.***
- ◆ ***Brooks Engineering's Inspector Guidelines for PV Systems.***
- ◆ **Similarities and Differences in two methods.**



Recommendations

- ◆ Promote FSEC's *PV System Design Review and Approval* and Brooks Engg's *Inspector Guidelines for PV Systems* to State Energy Officials, Building Inspectors and Authority Having Jurisdiction (AHJ) officials.
- ◆ Implement PV System Design Approval by a national certification body such as NABCEP.
- ◆ Expand PV System Design Review and Approval process to possibly include Brooks Engg., BEW Engg., SWTDI, Sandia, NREL and qualified PEs.



Recommended Approach

Listed/Approved PV Systems

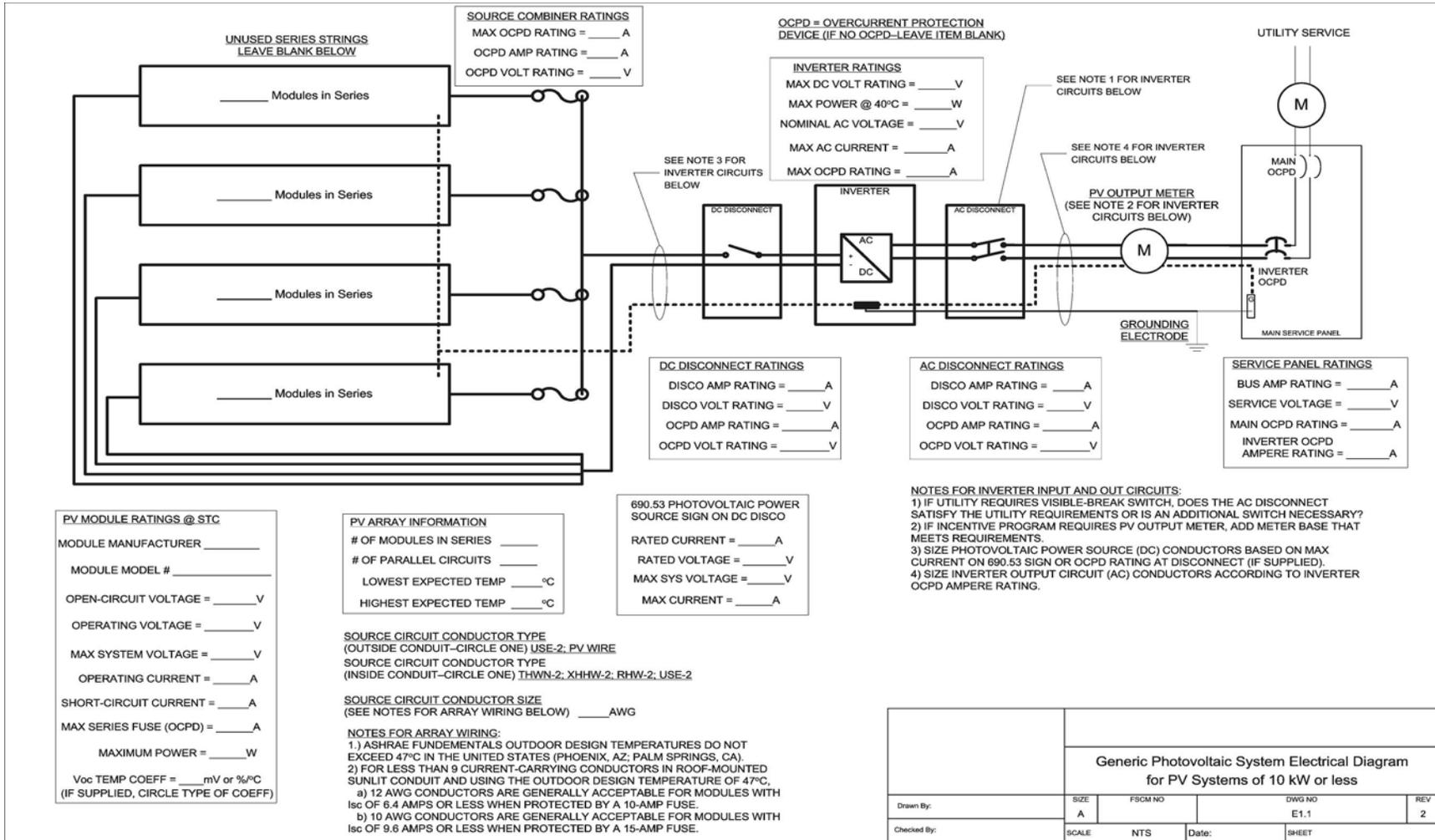
- ◆ Require only post-installation or field inspection checklist

Unlisted PV Systems

- ◆ Require pre-installation check/approval
- PV system design review and approval by approved experts (FSEC, other agencies, PEs)
- Simplified design tools and considerations
- ◆ Also require field inspection checklist



Simplified Design Checkout (Brooks Engineering)





FSEC PV System Approval Certificate

FLORIDA SOLAR  ENERGY CENTER

PV System Approval Certificate

07 - AB - 1234Z

Awarded to:
Solar Company
123 Main Street
Suite A
Orlando, Florida

Important: All items should be checked by the building code official

PV Modules and Array:	System Certified for:
PV Module Manufacturer	Solar System Co.
PV Module Model Number	SSM-100B
FSEC Module Certification Number	07-FSEC-9999
Listing to UL1703 Verified	YES
Array Configuration	
Total Number of PV Modules	32
Number In Each Series String	16
Number of Series Strings	2

Power Conditioning Equipment (Inverter):

Inverter Manufacturer:	Inverter Co.
Inverter Model Number	SI-3000
Listing to UL1741 Verified:	YES
Max. Allowable PV Array Power to Inverter:	
Inverter DC Voltage Window	Min: 200 Max: 450
AC Power Rating	3.0 kW
AC Nominal Voltage Output	240 V

Electrical Design

(Verify the following items for agreement between the installed components and the supplied electrical schematic)

- Size, type, and location of all conductors in the PV system
- Conduit, raceways, junction boxes, and combiner boxes
- Size, current rating, voltage rating, and location of all overcurrent protection devices
- Rating and location of all disconnects
- Point of connection to the utility
- PV module and equipment grounding system (including conductor size)
- PV DC circuit and system grounding (including grounding electrode conductor size)
- Ground Fault Detection & Interrupter (GFDI) rating and location
- Battery wiring and cable sizes (if applicable)

An electrical schematic of the complete PV system consisting of a three-line diagram must be attached to this form.

Inspection

Inspector Name (printed) Inspector Signature Date

Installer Information and Certification

Company Name _____
Address _____
Address _____
City _____ State _____ Zip Code _____
Phone Number _____ Fax Number _____
Web Site _____
Florida Contractor License Number _____
Florida Contractor License Type Solar Electrical Other (specify) _____
I hereby certify that this PV system has been installed in full accordance with the National Electrical Code.

Installer Name (printed) Installer Signature Date



Study Schedule

- ◆ Seek stakeholders input by January 15, 2008.
- ◆ Table of Contents by March 14, 2008.
- ◆ Draft procedures and recommendations for expedited permitting by May 31, 2008.
- ◆ Draft report on expedited permitting by August 31, 2008

We need your input:

- ◆ At quarterly study panel meetings and via the website.
 - ◆ By providing relevant information and assistance.
 - ◆ In reviewing draft report and recommendations.
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